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Comments: Please enter the following comments on the Mud Creek Draft EA into the public record:

1.First, I believe that an EIS is more appropriate than an EA for this project. The size and longevity of the project, plus the presence of bull trout, lynx, Flammulated Owls, Golden Eagles (not even mentioned in the Draft EA), Black-backed Woodpeckers, and wolverines, to name a few of the endangered, threatened, and/or species of concern, suggest the more comprehensive approach. The Mud Creek project will stretch to 20 years; surely a discussion of cumulative impacts and nearby projects, like the adjacent Piquett Creek project, is warranted. Please do an EIS.

2.Condition-Based Analysis, with its lack of information on site-specific treatments, makes it very difficult for the public to make meaningful comments. For example, those of us who support the ideas put forth by Hessburg and Larson understand the importance of individual patches within a landscape and would like to see what the Forest Service has planned in terms of forest spatial patterns. The Forest has promised to inform the public of progress and planning in yearly workshops; I am concerned that comments made by the public in response to information presented at these workshops will not have the same weight as comments made in the more familiar NEPA process. There will be less accountability under Condition-Based Analysis.

3.Frequent use of Project-Specific Forest Plan Amendments is disturbing. They are used on all recent projects. As courts have ruled, such amendments are meant to address unique characteristics of a particular forest area, not conditions that are common throughout an entire forest or region (League of Wilderness Defenders, et. al. v. Connaughton, et al. 2014). Write a new Forest Plan! In the meantime, adhere to standards set in the current Forest Plan. These amendments make me think about my professional career, during which I taught at the college level. Students would occasionally complain that they didn't like a particular course requirement or objected to the standards I set to earn an "A," "B," etc. They wanted me to change my standards and the English Department's requirements to suit their wants and needs. In a similar way, the Forest Service does not want to be limited by Forest Plan standards. These amendments allow the Forest Service to further delay work on a new Forest Plan. Until there is a new Forest Plan, please follow the 1987 Plan.

4.Added together, there could be just over 5700 acres of "focal areas," otherwise known as clearcuts. Some of the focal areas are over 300, 400, even 500 acres; many are adjacent to other focal areas. While there may be justification for the creation of some openings, and the ICO approach calls for them, this high number of acres, absent very compelling evidence, seems designed more for commercial interests than forest health. The ever-slowing rate of regeneration, thanks to climate change, makes such huge openings potentially unwise. Charney et al. (2016) says that climate change will negatively impact forest growth rates in the interior West. I would like to see a more thorough justification for the extent of clearcutting.

5.While I am glad that many crucial areas will not have any road construction (Draft EA 41-42), I would like to see no net increase in roads, as the area has one of the highest road densities on the Forest. Over 40 miles of new specified and temporary roads are proposed in the project area. The Draft EA says, "Each HUC 12 watershed will show a net reduction in road miles (total miles decommissioned will exceed total miles of specified road constructed) 41). I would like to see the net reduction calculation include temporary roads as well as specified roads, for as our climate grows ever hotter and dryer, it could take longer than the FS anticipates for the vegetation on the temp roads to regenerate. Charney et al. (2016) says that climate change will negatively impact forest growth rates in the interior West. While roads are necessary for active forest management, their impacts on wildlife and habitat must be seriously considered. Roads fragment habitat, spread noxious weeds, and increase sedimentation. Road construction during breeding seasons would be particularly disruptive.

6. Old Growth (OG) stands--and old trees outside an OG stand-- are crucial to a healthy forest. One might conclude that Forest Service professionals do not understand the crucial role Old Growth trees and stands play in our Forest. It seems they have searched out the research that gives them the very lowest standard (Green et al.) and ignored far more research. For example, Hessburg (2015) and Fielder (2007a) recommend reserving all or nearly all large trees. I believe that the Forest Service does understand the role of OG, so it's hard to understand using Green et al. The only other explanation is commercial logging. Green is "best science" to the Forest Service managers because they are being pressured to log more. I would like to see far more research that supports an Old Growth minimum of a mere eight trees per acre.

One of the consequences of climate change's impact on forests is slow growth. Charney et al. (2016) says that climate change will negatively impact forest growth rates in the interior West. This means it will take trees far longer to achieve OG status and fulfill the key role OG plays in the Forest. Fielder et al (2007b) says that "old-growth functions increase as numbers of large trees, snags, and downed logs increase." So please do not use commercial treatments in OG stands. Instead, limit OG treatments to understory thinning or prescribed burning. Dodson and Fielder (2006) argue against using both thinning and prescribed burns because the combination results in more weeds than either treatment used alone. And please do not conduct prescribed burns in the spring, when they could disturb breeding of various animals.

7. The reliance of many species on OG trees and stands is one reason the trees are crucial to a healthy ecosystem. One such species is the Flammulated Owl, a Montana Species of Concern and a U.S. Forest Service Sensitive Species. The Montana Field Guide cites Linkhart and Reynolds (1997): "Territories consistently occupied by breeding pairs were those containing the largest portion (more than 75 percent) of old-growth (200 to 400 years), whereas territories occupied by unpaired males and rarely by breeding pairs contained 27 to 68 percent old-growth" (Linkhart and Reynolds 1997). The Old-Growth standard in both Green et al., which recommends a bare minimum of eight OG trees per acre, and the current Forest Plan, which establishes a minimum of 15 OG trees per acre, are below what Flammulated Owls require.

Flammulated Owls are not alone in their reliance on OG forests. According to Shaw and Freeman (2002): Nesting avian species that are known to have their greatest abundance in old-growth forests include hairy woodpecker (*Picoides villosus*), red-breasted sapsucker (*Sphyrapicus ruber*), pileated woodpecker (*Dryocopus pileatus*), Pacific-slope flycatcher (*Empidonax difficilis*), olive-sided flycatcher (*Contopus borealis*), red-breasted nuthatch (*Sitta canadensis*), winter wren (*Troglodytes troglodytes*), brown creeper (*Certhia americana*), chestnut-backed chickadee (*Poecile rufescens*), varied thrush (*Ixoreus naevius*), hermit thrush (*Catharus guttatus*), red crossbill (*Loxia curvirostra*), evening grosbeak (*Coccothraustes vespertinus*), and Vaux's swift (*Caetura vauxi*). These birds are not the only animal species who rely on OG trees, stands, and forests. Mammals, such as Fisher and Pine Martens, also thrive where there are OG trees, as do some plants, like some species of lichen. Several species of bats use large diameter snags as maternity roosts or as day/night roosts (Arnett and Hayes 2010). Bats consume large numbers of insects that prey on forests. In short, the overall health of the project area ecosystem will benefit from retaining all OG and old trees.

8. There is an absence of analysis on Bald and Golden Eagles. Anecdotal evidence of both eagle species, from area residents, argues for efforts to locate nests of eagles and other raptors. These eagles are protected by the Bald and Golden Eagle Protection Act. Disturbing them, especially during their breeding season, is defined in the Act: "Disturb" means: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior" (<https://www.fws.gov/birds/policies-and-regulations/laws-legislations/bald-and-golden-eagle-protection-act.php>). Most agencies and experts follow Richardson and Miller in saying that a ½ mile buffer around a nest should protect the birds from auditory or visual disturbance. Given all the clearcutting and road building, I am not at all confident that nesting eagles or other raptors will be disturbed. I would like to see evidence that the BNF has attempted to ascertain the presence of eagles.

Works Cited

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